

CIM:- It is the integration of the total manufacturing enterprise through the use of integrated systems and data communications coupled with new managerial philosophies that improve organisational and personal efficiency.

- CIM basically involves the integration of all the functions of an enterprise.

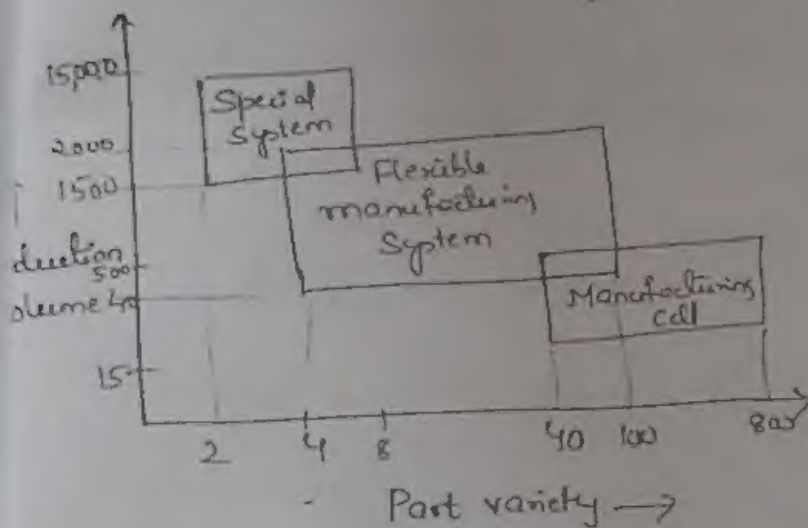
### Advantages of CIM:-

- 1) Improves operational control through
  - reduction in the no. of uncontrollable variables.
  - reducing dependence on human communication.
- 2) Improves the short-run responsiveness consisting of
  - engineering changes
  - m/c downtime or unavailability
  - Operator unavailability
  - Cutting-tool failure
  - late material delivery
- 3) Reduces inventory by
  - reducing lot sizes
  - improving inventory turnovers.
- 4) Increases m/c utilization by
  - eliminating or reducing m/c setup
  - utilising automated features to replace manual intervention to the extent possible
- 5) Engg. design costs can be reduced.
- 6) Overall lead-times "
- 7) Productivity of the manufacturing operation can be increased.

8) Work-in-process can be reduced.

## Types of manufacturing systems

- (1) Special manufacturing system
- (2) Manufacturing cell
- (3) Flexible manufacturing system (FMS)



The special manufacturing system is the least flexible CIM system.

It is designed to produce a very limited no. of different parts (2 to 8) in the same manufacturing family.

Annual production rate per part  $\rightarrow$  (1500 - 15,000) pieces.

Manufacturing cell is the most flexible, but generally has the lowest production rate of the three types.

The no. of different parts manufactured in the cell might be in between 40 & 800 and annual production levels for these parts would be between 15 & 500.

The FMS covers a wide middle territory within the mid-volume, mid-variety production range.

The no. of different parts manufactured (4 to 100)  
Production rates per part (40 & 2000) per year.